

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims

Claim 1 (currently amended): A method for incorporating graphics into absorbent articles, the method comprising:

- providing a moving substrate to a print cylinder;
- sensing a line speed reference signal from a line speed target machinery component comprising the main drive, said line speed reference signal being generated by an encoder that measures the angular velocity of the main drive;
- rotating the print cylinder at a predetermined speed, based on the line speed reference signal, to thereby print a series of graphics on the moving substrate at a predetermined distance frequency;
- sensing a phase difference signal from a phase target machinery component; and
- setting an actual print cylinder phase angle, based on the phase difference signal, to approximate a predetermined phase angle to thereby position the series of graphics on the moving substrate at a series of desired graphics locations.

Claim 2 (original): The method of claim 1, wherein the substrate comprises a backsheet web.

Claim 3 (currently amended): The method of claim 2, wherein the method further comprises:

- providing a supply of absorbent pads;
- providing a topsheet web;
- joining the topsheet web to the backsheet web with the absorbent pads located therebetween to thereby form an absorbent core assembly; and
- cutting the absorbent core assembly at a series of cuts with a cutter;
- wherein the phase target machinery component comprises the cutter.

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (original): The method of claim 1, wherein the phase target machinery component comprises a cutter.

Claim 7 (original): The method of claim 1, wherein the line speed target machinery component and the phase target machinery component comprise different machinery components.

Claim 8 (original): The method of claim 1, wherein the line speed target machinery component and the phase target machinery component comprise the same machinery component.

Claim 9 (canceled)

Claim 10 (original): The method of claim 1, wherein the phase difference signal is generated by an inductance sensor.

Claim 11 (original): The method of claim 1, wherein the series of graphics comprises a series of wetness indicators.

Claim 12 (original): The method of claim 1, wherein the series of graphics comprises a series of combined wetness indicators and decorative graphics.

Claim 13 (original): The method of claim 1, wherein the print cylinder comprises a flexographic print cylinder.

Claim 14 (currently amended): The method of claim 1, wherein the method further comprises:

providing the moving substrate to a second print cylinder; and  
rotating the second print cylinder at the predetermined speed, to thereby print a second series of graphics on the moving substrate at the predetermined distance frequency.

Claim 15 (original): The method of claim 14, wherein the series of graphics comprises a series of wetness indicators and the second series of graphics comprises a series of decorative graphics.

Claim 16 (original): The method of claim 1, wherein the method further comprises:  
detecting a shutdown mode from the line speed reference signal;  
disengaging the print cylinder from the substrate; and  
rotating the print cylinder at an idle speed.

Claim 17 (original): The method of claim 1, wherein the method further comprises:  
detecting a startup mode from the line speed reference signal;  
accelerating the print cylinder from an idle speed to the predetermined speed; and  
engaging the print cylinder with the moving substrate.

Claims 18-36 (canceled)

Claim 37 (currently amended): A method for incorporating graphics into absorbent articles, the method comprising:

providing a moving substrate to a graphic applicator;  
sensing a line speed reference signal from a line speed target machinery component comprising the main drive, said line speed reference signal being generated by an encoder that measures the angular velocity of the main drive;  
rotating the graphic applicator at a predetermined speed, based on the line speed reference signal, to thereby apply a series of graphics on the moving substrate at a predetermined distance frequency;  
sensing a phase difference signal from a phase target machinery component; and

setting an actual graphic applicator phase angle, based on the phase difference signal, to approximate a predetermined phase angle to thereby position the series of graphics on the moving substrate at a series of desired graphics locations.

Claim 38 (original): The method of claim 37, wherein the substrate comprises a backsheet web.

Claim 39 (currently amended): The method of claim 38, wherein the method further comprises:

- providing a supply of absorbent pads; providing a topsheet web;
- joining the topsheet web to the backsheet web with the absorbent pads located therebetween to thereby form an absorbent core assembly; and
- cutting the absorbent core assembly at a series of cuts with a cutter;
- wherein the phase target machinery component comprises the cutter.

Claim 40 (canceled)

Claim 41 (canceled)

Claim 42 (original): The method of claim 37, wherein the phase target machinery component comprises a cutter.

Claim 43 (original): The method of claim 37, wherein the line speed target machinery component and the phase target machinery component comprise different machinery components.

Claim 44 (original): The method of claim 37, wherein the line speed target machinery component and the phase target machinery component comprise the same machinery component.

Claim 45 (canceled)

Claim 46 (original): The method of claim 37, wherein the phase difference signal is generated by an inductance sensor.

Claim 47 (original): The method of claim 37, wherein the series of graphics comprises a series of wetness indicators.

Claim 48 (original): The method of claim 37, wherein the series of graphics comprises a series of combined wetness indicators and decorative graphics.

Claim 49 (original): The method of claim 37, wherein the graphic applicator is a cut-and-space device.

Claim 50 (original): The method of claim 37, wherein the method further comprises:  
detecting a shutdown mode from the line speed reference signal; and  
disengaging the graphic applicator from the substrate.

Claim 51 (original): The method of claim 37, wherein the method further comprises:  
detecting a startup mode from the line speed reference signal;  
accelerating the graphic applicator to the predetermined speed; and  
engaging the graphic applicator with the moving substrate.

Claims 52-68 (canceled)